

# **Graduation Citations**

**SHIH, Hoi Wai**

BEng (Civil)(Hon1), QUT, JP (Qualified)

**Thesis Title:**

Damage assessment in structures using vibration characteristics

**Supervisors:**

Professor David Thambiratnam (Principal)

Associate Professor Tommy Chan (Associate)

**Citation:**

This thesis uses dynamic computer simulation techniques to develop and apply a multi-criteria procedure based on vibration parameters for damage assessment of bridge structures. The feasibility of the procedure is illustrated through its application to damage assessment of slab-on-girder and truss bridges. The vibration based damage detection approach incorporates the changes in natural frequencies, modal flexibility and modal strain energy in order to maximise the chances of damage identification. The research findings will contribute towards the safe and efficient performance of bridge structures with socio-economic benefits to the community.